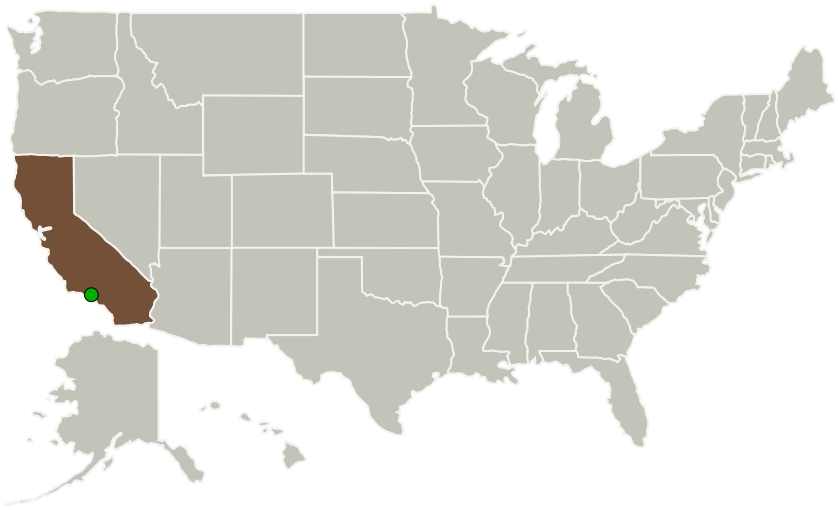
Low-Cost and High-Performance Propulsion for Small Satellite Applications, Phase I

Completed Technology Project (2014 - 2014)

Project Introduction

While small satellites continue to show immense promise for high-capability and low-cost missions, they remain limited by post-deployment propulsion for a variety of activities like precision maneuvering, orbit change and controlled re-entry / recovery. Furthermore, any on-board propulsion system capable of providing sufficiently high delta-V is likely to impose constraints on handling, storage, operations and safety that may limit consideration as a secondary payload. Ventions proposes to overcome these limitations by developing a compact, light-weight and low-cost 3U cubesat propulsion system that uses non-toxic propellants to provide approximately 125m/sec of delta-V within a 1kg and 100mm x 100mm x 100mm mass and size budget.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Ventions, LLC	Lead Organization	Industry	San Francisco, California
Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California

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Primary U.S. Work Locations
California

Project Transitions

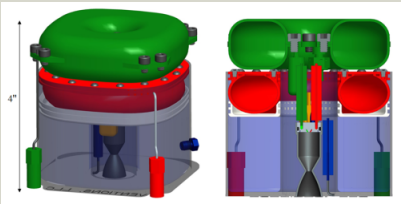
June 2014: Project Start

December 2014: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/137544)*

Images



Briefing Chart
Low-Cost and High-Performance Propulsion for Small Satellite Applications, Phase I
(https://techport.nasa.gov/image/130946)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Ventions, LLC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

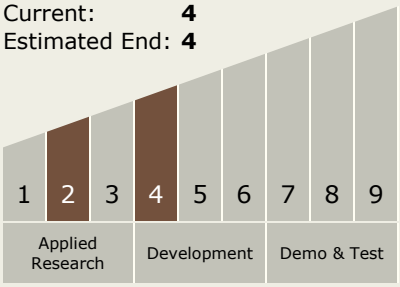
Carlos Torrez

Principal Investigator:

Adam London

Technology Maturity (TRL)

Start: **2**
Current: **4**
Estimated End: **4**



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Technology Areas

Primary:

- TX01 Propulsion Systems
  - TX01.1 Chemical Space Propulsion
    - TX01.1.3 Cryogenic

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System